

Mexico

Paul Stephenson, OATS limited



Mexico is officially the United Mexican States and is situated in the southern part of North America with a population of 131.4 million people in 2021. The top ten cities all have more than a million people each, in a country covering 31 states and 1.98 million square kilometres. Mexico City alone has 12.3 million inhabitants. It is also the second largest economy in Latin America, and 15th largest in the world. It has underperformed in areas such as poverty reduction, income disparity, with growth averaging about 2% a year since 1980. In recent years, performance has improved, but affected by Covid. It is also one of the more violent countries, rife with crime gangs and drug lords who inhibit progress and practice extortion. Small and local businesses, coupled with high tax rates on profits, does not bode well, with 44% of the population living below the poverty line.

For a country with abundant labour and a skilled workforce, and a high productivity rate, with many free trade agreements, abundant mineral resources, Mexico could have done better with its proximity to its northern neighbour's markets. Agriculture, forestry, fishing, and livestock production contribute less than 4% of GDP, whilst industry, which includes mining, automotive, oil and gas contributed between 25-35% over the last 3 decades. It has a broad industrial base with 13 free trade agreements with 52 countries, an unemployment rate down from 4.4% to 3.6 % in 2021 and no limits on capital flows. Foreign exchange rates are determined at market prices, which make foreign investment very easy except in the areas of agriculture, forestry, newspaper publishing and TV broadcasting and other specified activities according to government regulation. The automotive sector includes OEM's such as GM, Ford, Chrysler, Toyota, Honda, Nissan, Mazda, and Volkswagen, making Mexico the 7th largest producer worldwide at ~3 million vehicles annually, employing 1.7 million people in direct and indirect jobs in 2015. 89% of production is exported, with 80% of these to the United States.

In 2020, Mexico ranked 13th in the world for crude production producing 1.9 million bpd which contributes around 58% of the country's annual

revenue. This industry, controlled by PEMEX (Petroleous Mexicanos) since 1938, has consistently underperformed, due to inefficiency and bureaucracy since it took control of exploration, and the sale of oil products. This inefficiency caused the government to open up the industry to foreign companies in 2013 for exploration, production, including the importation, transportation, distribution, storage, and sale of crude and finished products. Recently this access has been tightened as the current government tries to make PEMEX more efficient. The country is a net importer of finished crude products like petrol and diesel. Mexican diesel emission standards have lagged, with 15ppm S diesel scheduled to become mandatory, countrywide in 2021 to meet US 2010 and Euro VI requirements, but pushed back to 2025 according to the Environment agency Semarnat.

Mexico's refining industry consists of six refineries (3x coking & 2x catalytic cracking) with a 2020 distillation capacity of 1 640 000 bpd, excluding a new 340 klpd cat cracker and coking refinery, Dos Bocas, currently nearing completion. This excludes Pemex's purchase of Shell's share of Houston's Deer Park refinery in its quest for energy independence by 2023 for diesel and petrol imports, even though Pemex' debt is more than \$100 billion, as of January 2022. In the quest for energy independence, Mexico has retreated from renewables. This departure withdraws from a commitment to generate more than a third of its power from renewables made more than a decade ago. Mexico currently produces about 25% of energy from renewables which could have a backlash as foreign companies like GM and Ford have a net zero target in which renewables plays a large part.

The average age of the Mexican vehicle parc is about 15 years old with a population of over 50 million motor vehicles in 2020 compared with about 90%, considered petrol fuelled, to 1980 when there were six million. There are however no accurate or reliable vehicles in operation (VIO) data. Second hand vehicle imports also play a role, and a significant portion are imported. Thus, oil specifications vary from the latest to obsolete specifications.

Mexican engine oil specification, NOM 116-SCFI-2018 mirrors the API naming convention, plus backward compatibility and is mandatory from June 2020. Petrol specifications GN/GM (API SN/SM) make up about 60% of the requirement, GL/GJ (API SL/SJ) about 35% and obsolete specifications about 5%. Diesel grades DFA-4 (API FA-4) and DK-4/DJ-4 (API CK-4/CJ-4) have about 14% market share; DI-4 Plus/DI-4/DH-4 (API CI-4 Plus/CI-4/CH-4), about 54% with earlier obsolete specifications about 30%. Obsolete DF specifications will not be allowed for sale or manufacture after June 2023. Any valid certificate of compliance from API, ACEA or an OEM is valid for three years.

It is compulsory to obtain a certificate of oil quality through government agencies and validate against equivalent categories from the API or ACEA with test validation of engine tests from the additive supplier. It is mandatory to include additional package label information to include end use, viscosity, base oil type and viscosity with the oil service category. The label must include environmental data, OEM technical usage specifications and whether own brand or toll blended for third party sale.


The engine oil viscosity trend in Mexico follows other countries with SAE 15W-40 being the dominant grade up to about 1990 when SAE 10W-30 made inroads. But from the mid 90's, SAE 5W-30 viscosity grade has increased in off-take and 0W/5W-20 recommended oils have also increased significantly since circa 2010. As is typical of any large oil market, some local and foreign suppliers offer low specification fluids and additives that compete unfairly with legitimate traders and suppliers trying to supply high end quality lubricants.

Mexico's falling crude production and poor quality crude coupled with a drop in refinery utilisation will bring challenges to this nation, which coupled with drug and violent crime, an aging refining infrastructure coupled with state interventions will need to be addressed before this country can really take its place as a leading growth market in the region and improve its citizens quality of life.

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For more information,
contact Laurie McHale
laurie@ukla.org.uk